

REMARKS

Claims 6, 8 and 9 remain in this application. In view of these amendments and of the following remarks, Applicants submit that all the claims are now in condition for allowance.

Applicants acknowledge with appreciation the withdrawal of the rejection under 35 U.S.C. Section 102 (f).

The claims remain rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 3,903,090 and WO 96/16048. The gist of the rejection is that the '090 Patent discloses N-(3,5-dihalophenyl)-imide compounds that can be combined with other fungicides and that WO 96/16048 discloses the combination of prothioconazole with other fungicides, and that therefore, the present invention directed to the combination of prothioconazole with other fungicides is obvious.

Applicants respectfully traverse.

The present invention is directed to the combination of prothioconazole with other fungicides, that is true. But what the Office Action overlooks is that this is a largely unpredictable art, and while it is predictable to combine fungicides, it is not at all predictable where and when and in what ratios, such combinations will exhibit synergy. The references cited by the Office Action disclose combining fungicides, but neither reference describes the synergy of the present invention involving prothioconazole in combination with these 24 specific mixing partners. And in the case of the '090 Patent it is even less helpful for the Examiner, because it **does not even disclose the use of any azole**, let alone prothioconazole, in its discussion of possible mixing partners with its N-(3,5-dihalophenyl)-imide compound as set forth in its column 32, line 36 through column 33, line 6 discussion. The undersigned believes that prothioconazole was not even in existence when the '090 Patent issued on September 2, 1975.

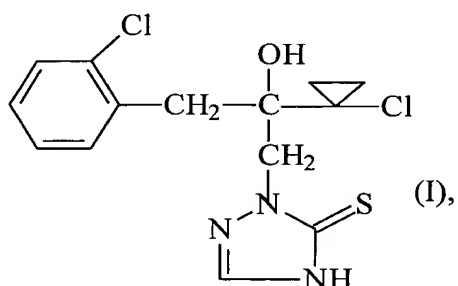
When the parent of this case was filed, it laid claim to specific synergistic combinations of the compound of Formula I (prothioconazole) in combination with 24 mixing partners, namely compounds of the Formulae II through XXV (also identified as Groups 1 through 24).

The parent case in this family issued as U.S. Patent No. 6, 306,850, directed to the combination of the compound of the Formula I (prothioconazole) with one of

the mixing partners, (specifically the compound of the Formula XIV (Group 13)). Its claims are as follows:

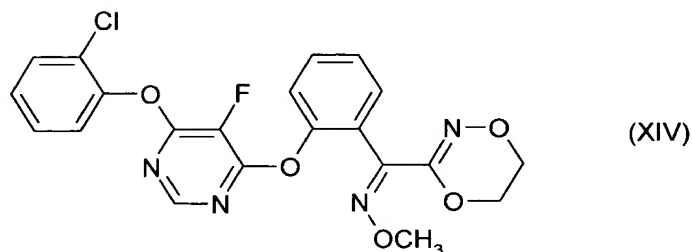
"1. A fungicidal composition comprising synergistic fungicidally effective amounts of an active compound combination comprising

- (a) a 2-[2-(1-chlorocyclopropyl)-3-(2-chlorophenyl)-2-hydroxypropyl]2,4-dihydro-[1,2,4]-triazole-3-thione of the formula



and

- (b) a compound of the formula



wherein the weight ratio of the active compound of formula (I) to the compound of formula (XIV) is from 1:0.2 to 1:20.

2. The composition of Claim 1, wherein the weight ratio of the active compound of formula (I) to the compound of formula (XIV) is from 1:0.33 to 1:3.
3. A method for controlling fungi comprising applying synergistic fungicidally effective amounts of the active compound combination according to Claim 1 to the fungi and/or their habitat."

not specifying the relative proportions of the ingredients, and when those proportions were added to the claim, the case was allowed.

The present claims are no different, and Applicants fail to understand why the Patent Office is shifting its position so drastically in this divisional application.

The Colby formula described in the specification at page 22-23 is an old established well accepted formula for determining when synergy is present. In this case, that formula was applied to show a **calculated** value and was then **compared** to a **found** value to establish that there was indeed a synergistic effect found for the combination of the compound of the Formula I with its mixing partners of the Formulae II through XXV.

In the Table that follows, Applicants point out to the Examiner where this information is found, either in the specification or in a Declaration being filed concurrently herewith from Dr. Wachendorff-Neumann:

First Mixing Partner	Second Mixing Partner	Table # and Page # In Specification	Concentration in g/ha X or X/Y Ratio X:Y	Material Tested	Efficacy In %	Efficacy Found In %	Efficacy Calculated Using Colby Formula in %
Mixing Partners: Formula I with Formula II							
		TABLE 1					
I	II a	Table 1, Page 33	2.5/2.5 1:1	Sphaerotheca		90	50
I	II b	Table 1, Page 33	2.5/2.5 1:1	Sphaerotheca		93	84
I	II c	Table 1, Page 33	2.5/2.5 1:1	Sphaerotheca		90	21
		TABLE 2					
I	II b	Table 5, Page 44	12.5/12.5 1:1	Erysiphe	100		
I	II b	Table 5, Page 44	6.25/18.75 1:3	Erysiphe	100		
I	NONE	Table 5, Page 42	25 12.5 6.25	Erysiphe	75 50 25		
NONE	II b	Table 5, Page 42	25	Erysiphe	88		
		TABLE 9					
I	II c	Table 9, Page 54	37.5/37.5 1:1	Fusarium C	41		
I	NONE	Table 9, Page 54	75	Fusarium C	32		
NONE	II c	Table 9, Page 54	75	Fusarium C	27		
		TABLE 11					
I	II c	Table 11, Page 58	12.5/12.5 1:1	Rhizoctonia S	31		
I	None	Table 11, Page 58	25	Rhizoctonia S	19		
NONE	II c	Table 11, Page 58	25	Rhizoctonia S	27		
Mixing Partners: Formula I with Formula III							
		TABLE 1					
I	III	Table 1, Page 33	2.5/2.5 1:1	Sphaerotheca		85	61
		TABLE 5					
I	III	Table 5, Page 43/44	12.5/12.5 1:1	Erysiphe	100		
I	III	Table 5, Page 44	6.25/18.75 1:3	Erysiphe	100		
I	III	Table 5, Page 44	18.75/6.25 3:1	Erysiphe	100		
I	NONE	Table 5, Page 42	25 12.5	Erysiphe	75 50		

			6.25		25		
None	III	Table 5, Page 42	25	Erysiphe	88		
		TABLE 6					
I	III	Table 6, Page 48	3.125/3.125 1:1	Erysiphe	79		
I	III	Table 6, Page 48	1.5625/4.6875 1:3	Erysiphe	71		
I	III	Table 6, Page 48	4.6875/1.5625 3:1	Erysiphe	71		
I	NONE	Table 6, Page 48	6.25	Erysiphe	57		
NONE	III	Table 6, Page 48	6.25	Erysiphe	57		
		TABLE 11					
I	III	Table 11, Page 58	12.5/12.5 1:1	Rhizoctonia S	40		
I	NONE	Table 11, Page 58	25	Rhizoctonia S	19		
NONE	III	Table 11, Page 58	25	Rhizoctonia S	27		
Mixing Partners: Formula I with Formula IV							
I	IV a	Table 1, Page 30	2.5/25 1:10	Sphaerotheca		63	21
I	IV b	Table 1, Page 30	2.5/25 1:10			63	21
Mixing Partners: Formula I with Formula V							
I	Va/Vb	Table 2, Page 36	1/1 1:1	Venturia		54	1
Mixing Partners: Formula I with Formula VI							
I	VI	Table 1, Page 29	2.5/25 1:10	Sphaerotheca		70	21
Mixing Partners: Formula I with Formula VII							
I	VII c	Table 1, Page 30	2.5/25 1:10	Sphaerotheca		63	21
Mixing Partners: Formula I with Formula VIII							
I	VIII	Table 1, Page 32	2.5/12.5 1:5	Sphaerotheca		75	21
Mixing Partners: Formula I with Formula IX							
I	IX	Table 1, Page 33	2.5/12.5 1:5	Sphaerotheca		66	31
Mixing Partners: Formula I with Formula X							
I	X	Table 1, Page 34	2.5/2.5 1:1	Sphaerotheca		52	21

Mixing Partners: Formula I with Formula XI							
		TABLE I					
I	XI	Table 1, Page 32	2.5/12.5 1:5	Sphaerotheca		54	21
		TABLE 5					
I	XI	Table 5, Page 45	6.25/6.25 1:1	Erysiphe	100		
I	XI	Table 5, Page 45	3.125/9.375 1:3	Erysiphe	100		
I	XI	Table 5, Page 45	9.375/3.125 3:1	Erysiphe	100		
I	NONE	Table 5, Page 42	25 12.5 6.25	Erysiphe	75 50 25		
NONE	XI	Table 5, Page 43	12.5	Erysiphe	0		
Mixing Partners: Formula I with Formula XII							
		TABLE I					
I	XII	Table 1, Page 32	0.5/2.5 1:5	Sphaerotheca		75	59
		TABLE 4					
I	XII	Table 4, Page 40	12.5/12.5 1:1	Erysiphe	100		
I	XII	Table 4, Page 40	6.25/18.75 1:3	Erysiphe	100		
I	XII	Table 4, Page 40	18.75/6.25 3:1	Erysiphe	100		
I	NONE	Table 4, Page 40	25	Erysiphe	83		
NONE	XII	Table 4, Page 40	25	Erysiphe	92		
Mixing Partners: Formula I with Formula XIII							
		TABLE I					
I	XIII	Table 1, Page 32	0.5/2.5 1:5	Sphaerotheca		80	57
		TABLE 5					
I	XIII	Table 5, Page 46	3.125/3.125 1:1	Erysiphe	100		
I	XIII	Table 5, Page 46	1.5625/4.6875 1:3	Erysiphe	100		
I	NONE	Table 5, Page 42	25 12.5 6.25	Erysiphe	75 50 25		
NONE	XIII	Table 5, Page 43	6.25	Erysiphe	94		
Mixing Partners: Formula I with Formula XIV							
See parent application: U.S. Patent No. 6,306,850							

Mixing Partners: Formula I with Formula XV							
I	XV	Table 1, Page 32	2.5/12.5 1:5			50	21
Mixing Partners: Formula I with Formula XVI							
		TABLE 1					
I	XVI a	Table 1, Page 31	2.5/25 1:10	Sphaerotheca		59	21
I	XVI b	Table 1, Page 31	2.5/25 1:10	Sphaerotheca		52	21
		TABLE 5					
I	XVI b	Table 5, Page 46	6.25/6.25 1:1	Erysiphe	75		
I	NONE	Table 5, Page 42	25 12.5 6.25	Erysiphe	75 50 25		
NONE	XVI b	Table 5, Page 43	12.5	Erysiphe	0		
Mixing Partners: Formula I with Formula XVII							
I	XVII	Table 1, Page 31	2.5/25 1:10	Sphaerotheca		63	21
Mixing Partners: Formula I with Formula XVIII							
I	XVIII	Table 1, Page 31	2.5/12.5 1:5	Sphaerotheca		63	21
Mixing Partners: Formula I with Formula XIX							
I	XIX	Table 1, Page 30	2.5/25 1:10	Sphaerotheca		59	21
Mixing Partners: Formula I with Formula XX							
I	XX	Table 1, Page 30	2.5/50 1:20	Sphaerotheca		52	31
Mixing Partners: Formula I with Formula XXI							
		TABLE 5					
I	XXI b	Table 5, Page 46	1.5625/4.6875 1:3	Erysiphe	50		
I	NONE	Table 5, Page 42	25 12.6 6.25	Erysiphe	75 50 25		
NONE	XXI b	Table 5, Page 43	6.25	Erysiphe	38		
		TABLE 10					
I	XXI a	Table 10, Page 56	12.5/12.5 1:1	Fusarium N	31		
I	NONE	Table 10, Page 56	75 25	Fusarium N	14 0		
NONE	XXI a	Table 10, Page 56	25	Fusarium N	0		

Mixing Partners: Formula I with Formula XXII							
I	XXII	Declaration of Dr. Wachendorff-Neumann	10 ppm/10 ppm 1:1	Venturia		88	47
Mixing Partners: Formula I with Formula XXIII							
I	XXIII	Declaration of Dr. Wachendorff-Neumann	10 ppm/10 ppm 1:1	Venturia		85	49
Mixing Partners: Formula I with Formula XXIV							
I	XXIV	Table 1, Page 31	2.5/12.5 1:5	Sphaerotheca		50	21
Mixing Partners: Formula I with Formula XXV							
Deleted From Claims							

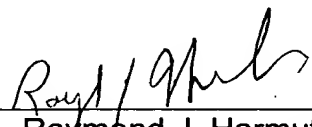
Clearly, synergism is shown. Either directly through the Colby calculation or indirectly as where far less active ingredient is needed to get the same or better results with the combined mixing partners as opposed to either acting alone.

Applicants respect the Examiner, but in this case, they simply disagree with the Office Action. The Office Action paints a simple broad picture that mixing fungicides is known and stops there. It makes no showing as to what would motivate one skilled in the art after reading the '090 Patent and WO 96/16048 **to select these specific 24 mixing partners for prothioconazole and to know that these specific combinations would demonstrate a synergistic effect when combined with prothioconazole in specific ratios set forth in the claims.** Applicants are running out of approaches to convince the Examiner in this case, and hope that the foregoing chart will make it easy for the Examiner to see the synergism of the present invention. Applicants invite, encourage and would welcome the Examiner to provide any guidance or suggestions that will help bring this case to a successful conclusion, and to telephone the undersigned with such suggestions or ideas before issuing the next Office Action in the case. But if the Examiner has none, and if the Examiner is not convinced by all of the foregoing, despite their respect for the Examiner, due to the importance of this technology to the assignee, Applicants will regrettably be forced to ask the Board of Patent Appeals and Interferences to decide whether Applicants or the Examiner are correct in this case. Applicants respectfully assert that the foregoing along with the attached Declaration from Dr. Wachendorff-Neuman fully establishes the novelty and unobviousness of the present invention.

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Review and allowance of the claims are respectfully requested.

Respectfully submitted,

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